Work Order ID 113230

February-13-14 3:04:51 PM

113230

Item ID: D3537-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Wearpad

Start Date: 18/02/2014 **Start Qty:** 40.00 *40*

Required Date: 18/02/2014 **Req'd Qty:** 40.00 *40*

Cust Item ID:

Customer:

Reference:

Approvals: **Process Plan:** AP **Date:** 14-02-13 **Tooling:** _____ **Date:** _____ **Run Start** *NR1*

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____ **Stop** *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	**Revision Nbr**								
D3537	Rev C								
100	FLOW WATER JET	0.00							
100									
Waterjet	**Memo**	0.00							
FLOW CNC Waterjet	1-Cut as per Dwg D3537Dwg Rev:_____Prog Rev:_____								
	ISSUE PO PO23611								
	POSSIBLE SUPPLIER:LOEBSACK WATERJET								
105		0.00							
105									
Small Fab	**Memo**	0.00							
Small Fab	DEBURR A/R								
107	Form as per dwg	0.00							
107									
Brake NC	**Memo**	0.00							
Brake NC	1- FORM AS PER DWG D3537 ON CNC BRAKE USING JIGS DT 8261 AND DT 8326.2- IDENTIFY AS D3537-1								

CRAT CUST

QC S

DAS 27 9-89 14/4/17

DAS 30 9-89

2/18/14

4/4/17 (40)

40 cont

40

14/04/22

DQA: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric
- ☐ Cracks
- ☐ Crimp/Kink/Ripple/Wave
- ☐ Cuffs
- ☐ Crushing
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Marks/Chatter
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damage/Defect
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drawing
- ☐ Drill Holes
- ☐ Finish
- ☐ Fit/Function
- ☐ Folio/Program
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete/Unqualified
- ☐ Instructions Incomplete/Unclear
- ☐ Misaligned/off center
- ☐ Mislabeled
- ☐ Misread
- ☐ Off-set
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____

_____

_____

Work Order ID 113230

February-13-14 3:04:51 PM

113230

Item ID: D3537-1 **Accept** *N9000040100* **Setup Start** *NS1*

Revision ID:

Item Name: Wearpad **Stop** *NS2*

Start Date: 18/02/2014 **Start Qty:** 40.00 *40*

Required Date: 18/02/2014 **Req'd Qty:** 40.00 *40*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110		0.00							
110						40			14-04-23
Large Fab	**Memo**	0.00							
Large Fab	Qty Description BatchA/R 2059B hardcoat M125226, M127737 1-Weld as per Dwg D3537 using jigs DT82102-remove any weld that penetrated through Wearpad if necessary.								
112	QC10- Inspect visual per QSI004- ground welds	0.00							
112						(40)	14.04.23		DAS 9 9-89
QC	**Memo**	0.00							
Quality Control									
114	QC5- Inspect part completeness to step on W/O	0.00							
114						(40)	14.04.23		DAS 9 9-89
QC	**Memo**	0.00							
Quality Control									

DQA: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

_____
_____
_____

Work Order ID 113230

February-13-14 3:04:51 PM

113230 B113230

Item ID: D3537-1 D3537-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Wearpad

Start Date: 18/02/2014 **Start Qty:** 40.00 *40*

Required Date: 18/02/2014 **Req'd Qty:** 40.00 *40*

Reference:

Cust Item ID:

Customer:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
116	Grey Sandtex(Ref:4.3.5.6) per QSI005 4.3 M125028 -	0.00				40	0	14-4-24	DAS 34 9-89
116 Powdercoat Powder Coating	**Memo** START TIME: 8:50 OVEN TEMPERATURE: 320° FINISH TIME: 9:20	0.00							
118	QC3- Inspect Part Finish	0.00				40	0	QP	14/04/24
118 QC Quality Control	**Memo**	0.00							
120	Receive & Inspect for Damage & Mat'l Certs	0.00							
120 Packaging Packaging	**Memo** N/A	0.00							

DQA: _____ Date: _____

DART AEROSPACE

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

_____
_____
_____

Item ID: D3537-1 **Accept** *N9000040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Wearpad
Start Date: 18/02/2014 **Start Qty:** 40.00 *40*
Required Date: 18/02/2014 **Req'd Qty:** 40.00 *40*
Reference:
Cust Item ID:
Customer:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*
Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
125	QC6- Inspect dimensions to drawing	0.00							
125									
QC	Memo	0.00							
Quality Control									
190	Identify as per dwg & Stock Location: FP-004	0.00							
190						X40	of 40	14/04/25	
Packaging	Memo	0.00							
Packaging									
200	QC21- Final Inspection - Work Order Release	0.00							
200							14-4-25		
QC	Memo	0.00							
Quality Control									

14-4-25

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

DART AEROSPACE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric
- ☐ Cracks
- ☐ Crimp/Kink/Ripple/Wave
- ☐ Cuffs
- ☐ Crushing
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Marks/Chatter
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damage/Defect
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drawing
- ☐ Drill Holes
- ☐ Finish
- ☐ Fit/Function
- ☐ Folio/Program
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete/Unqualified
- ☐ Instructions Incomplete/Unclear
- ☐ Misaligned/off center
- ☐ Mislabeled
- ☐ Misread
- ☐ Off-set
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Set-up
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____

_____

_____

Picklist Print

February-13-14 3:06:14 PM

Work Order ID: 113230

113230

Parent Item: D3537-1

D3537-1

Parent Item Name: Wearpad

Start Date: 18/02/2014 **Required Date:** 18/02/2014

Start Qty: 40.00 **Required Qty:** 40.00

Comments: IPP Rev:A New Issue 07-02-14 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3537-1P		Purchased	No				Each	0.0000		40			
D3537-1P Wearpad									**				

4/4/14 (JJ)

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date: Work Order update only ☐

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Suspected Unapproved ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design	☐									
Doc/Data	☐									
Equip/Tooling	☐									
Handling/Pre	☐									
Material	☐									
Operator	☐									
Offset/Setup	☐									
Process	☐									
Supplier	☐									
Training	☐									
Transport	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric
☐ Cracks
☐ Crimp/Kink/Ripple/Wave
☐ Cuffs
☐ Crushing
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Marks/Chatter
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damage/Defect
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drawing
☐ Drill Holes
☐ Finish
☐ Fit/Function
☐ Folio/Program
☐ Grain
☐ Hardware
☐ Inspection Incomplete/Unqualified
☐ Instructions Incomplete/Unclear
☐ Misaligned/off center
☐ Mislabeled
☐ Misread
☐ Off-set
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Set-up
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

_____
_____
_____

DART AEROSPACE LTD	Work Order:	113230
Description: Wearpad	Part Number:	D3537-1
Inspection Dwg: D3537 **Rev:** C		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

[X] First Article [ ] Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
4.250	+/-0.010	4.23	✓			
3.500	+/-0.010	3.494	✓			
1.965	+/-0.010	1.94	✓			
2.795	+/-0.010	2.79	✓			
3.625	+/-0.010	3.6	✓			
0.220 x 0.380	+/-0.010	0.234 X 0.389	✓			

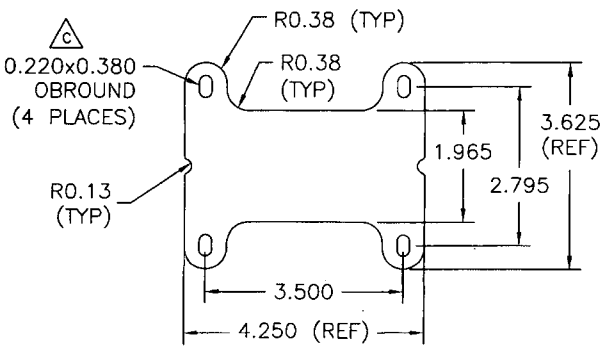
Measured by:	mm
Date:	14/04/16

Audited by:	DAS 27 9-89
Date:	14/4/16

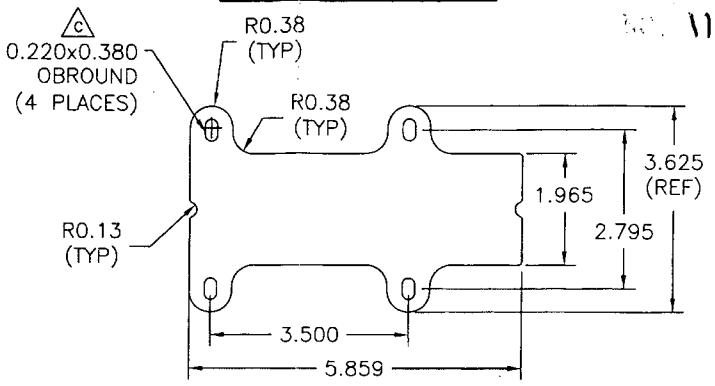
Prototype Approval:	N/A
Date:	N/A

Rev	Date	Change	Revised by	Approved
A	07.03.21	New Issue	KJ/JLM	
B	07.04.27	Dimensions revised per Dwg Rev. B	KJ/JLM	
C	07.05.28	Dimensions revised per Dwg Rev. C	KJ/JLM	

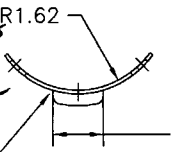
D3537-1F FLAT PATTERN



D3537-3F FLAT PATTERN

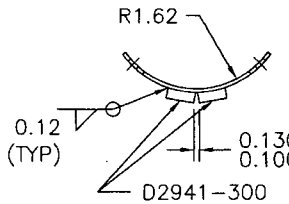


SECTION A-A



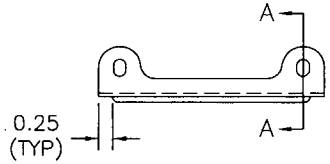
APPLY 2 LAYERS OF
2059B HARDCOAT WELDS
TO WITHIN 0.25 OF
WEARPAD ENDS
0.188 TO 0.250 THICK

SECTION B-B

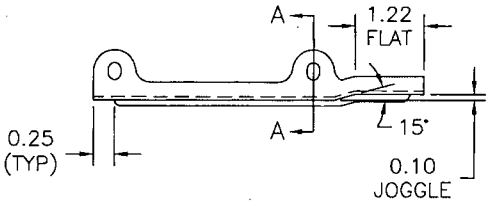


D2941-300
REMOVE POWDER
COAT FROM THESE
SURFACES

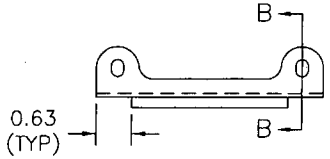
D3537-1 LONGITUDINAL BEND
(MADE FROM D3537-1F)



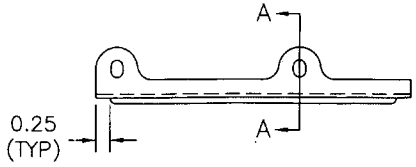
D3537-3 LONGITUDINAL BEND
(MADE FROM D3537-3F)



D3537-5 LONGITUDINAL BEND
(MADE FROM D3537-1F)



D3537-7 LONGITUDINAL BEND
(MADE FROM D3537-3F)



D3537-1/-3/-5/-7 WEARPAD NOTES

1) MATERIAL: AISI 304/316 SS SHEET PER AMS 5513 OR AMS 5524, 16 GAUGE (0.063 THICK)
   (REF DART SPEC. M304S16GA)
2) BREAK ALL SHARP CORNERS 0.063 MAX
3) WELD PER QSI 004
4) FINISH: POWDER COAT GREY SANDTEX (4.3.5.6) PER QSI 005 4.3
5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
6) ALL DIMENSIONS ARE IN INCHES

C	07.04.13	WIDEN TAB TO 0.380, WELD PATTERN
B	07.03.20	ADD AMS 5513 AND AMS 5524
A	06.11.06	NEW ISSUE

DESIGN: CB	DRAWN BY: PH	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
CHECKED	APPROVED	DRAWING NO. D3537	REV. C
DATE: 07.04.13		TITLE: WEARPAD	SCALE: 1:2
			SHEET 1 OF 1

UNDER REVIEW

RELEASED 07.05.08 AH per ECN 962

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO23011

Purchase Order Date 2/14/2014
PO Print Date 2/14/2014

Order From : VC-LWC001

LOEBSACK WATERJET CANADA LTD.
55 NORTHFIELD DR. E.
P.O.BOX 339

WATERLOO, ONTARIO N2K 3T6

Ship To : DART AEROSPACE LTD
1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name
Vendor Phone

Ship To Contact
Ship To Phone
Ship Via: FedEx PI collect
Ship Acct:

Buyer Michael Gregoire
Customer POID
Customer Tax # 10127-2607
Terms Net 30
Currency CAD
FOB FCA – (Free Carrier)

22	D3537-1P	Wearpad	3/28/2014 Yes 3/28/2014	40.00 Each		$4.30	$172.00

Manufacture as per drawing D3537 rev.c
B113230

Line Total: $516.00

23	D2803-2P	BRACKET	3/28/2014 Yes 3/28/2014	12.00 Each		$91.85	$1,102.20

Manufacture as per drawing D2803 rev.b
B113442

Line Total: $1,102.20

PO Total: $12,775.30

PO Instructions: PROCUREMENT QUALITY CLAUSES
A005 RIGHT OF ENTRY
A008 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION SENT TO DART AEROSPACE)
A012 CHEMICAL AND PHYSICAL TEST REPORTS
A016 PERSONNEL QUALIFICATION
A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)
A026 CERTIFICATION OF MATERIAL CONFORMANCE
A042 DART NOTIFICATION BY SUPPLIER

M. Gregoire

Note: Pricing listed above is as per contract agreement between Dart Aerospace and the respective manufacturer.

Loebsack WaterJET Canada Ltd.

55 Northfield Dr., E., Box 339
Waterloo, On. N2K 3T6
(519)570-6590
F. (519)893-4252

Certificate of Compliance

Sold To: DART Aerospace

Purchase Order Nu ID PO23011

Item	Quantity	Part Number	Revision	Description	Mtl. / Thk.	HT Number
18(4)	60	D3065-1	b	STEP SPACER	2024-T3 / 0.040"	663172A5
19(5)	100	D3065-3	b	STEP SPACER	2024-T3 / 0.040"	663172A5
21(7)	60	D3065-7	b	STEP SPACER	2024-T3 / 0.040"	663172A5
20(6)	110	D3065-5	b	STEP LEG	5052-H32 / 0.080"	3C5291
9(8)	20	D4093-1	d	BRACKET	6061-T6 / 0.750"	37797032
10(9)	10	D4093-3	d	BRACKET	6061-T6 / 0.750"	37797032
8(2)	20	D3319-1	c	WEARPLATE	CRS 18GA / 0.048"	3683T3-51
7(1)	20	D3319-3	c	WEARPLATE	CRS 18GA / 0.048"	3683T3-51
22(3)	120	D3537-1F	c	WEARPAD	304 SS / 0.063"	A1303988
11(10)	40	D3405-1F	b	GHW BRACKET	304 SS / 0.120"	350420

This is to certify that the whole of the supplies detailed hereon has been inspected, tested, packed, and unless otherwise stated, conform in all respects with the requirements of the contract or order.

Name: Derek Loebsack Title: President

Sign: Dated: 07-14-04

THYSSENKRUPP MATERIALS NA

J.M. WOODTURNING LTD
ALUMINUM PLATE 6061-T651
.750" THICK X 48.5000" X 96.5000"
PART NO.

PO/Rel FRED

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:_____

Certificate of Mill Test Results

BL PEC-851084-001 19Nov13
Pg 1/1

TEST CERTIFICATE

HULAMIN

Certificate No : 12091/82662

Hulamin Limited Reg. No. 1940012/06/06 VAT Reg. No. 4080149614
HEAD OFFICE: Hulamin Rd, Pietermaritzburg 3201, P.O. Box 74, Pietermaritzburg 3200, South Africa
Telephone: +27 33 3456911 Telefax: +27 33 394 6335

BUYER:	Hulamin Load No: H.018523	Product : PLATE HEAT TREATED UNISHED, 6061-T651 0.75" x 48.5" x 96.5"
TA CHEN INTERNATIONAL INC 5885 ODISPO AVE LONG BEACH CA 90805	Lot No : 17/09/032C8 P/List No : 2/11/61413 Release No : RE095656	Dimension : 0.75" X 48.5" X 96.5" Alloy - Temper : 6061 - T651
	Cust Order No : N03100-S HULAMIN Order No: 1817428 Item Part : 1/1	Certificate No : 12091/82662 Cust Ref/Part No: Combined P/List No : R/2/61413

Case No : FFV671

MECHANICAL TEST RESULTS

Lot No.	Cast No.	Metal Id	Alloy	Spec No	Mechanical Properties							
					Yield Strength (Ksi)	UTS (Ksi)	Elongation A50 (%)	Earing (%)	Test Date	Gauge Length (inches)	Bend Test	Actual Gauge (inches)
Spec				Min	35.1	42.0	9					0.75
				Max								0.781
17/09/032C8	VAST	37797032	6061	1	41.6	46.7	15		07/09/12	2		0.765
				2	41.6	46.7	15		07/09/12	2		0.765

CHEMICAL COMPOSITION

	Cast No.	Alloy	Si (%)	Fe (%)	Cu (%)	Mn (%)	Mg(%)	Cr(%)	Zn (%)	Ti (%)	Each(%)	Total(%)	Al(%)
Min			0.40		0.15		0.8	0.04					
Max			0.8	0.7	0.40	0.15	1.2	0.35	0.25	0.15	0.05	0.15	
	VAST	6061	0.69	0.44	0.28	0.11	1.01	0.21	0.01	0.012			97.20

CONFORMS TO: ASME SB-209 ASTM B209/10 AMS 4027M AMS-QQA-250/11, 00.1997

For purposes of determining conformance with these specifications, an observed value or a calculated value shall be rounded "to the nearest unit" in the last right-hand digit used in expressing the specification limit, in accordance with the rounding method of ASTM Practice E29, for Using Significant Digits in Test Data to Determine Conformance with Specifications.

WE HEREBY CERTIFY, THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF THE ORDER CONTRACT. THE INSPECTION RESULTS INDICATED IN THE CHEMICAL COMPOSITION HAVE BEEN OBTAINED FROM CAST ANALYSIS.

Dr A. Pocivavsek(HEAD OF CHEMICAL TESTING)

Ver1.0.1

V. Markram(HEAD OF PHYSICAL TESTING)

Printed Date: 15 Nov 2012

1 of 1

MILL TEST REPORT TA CHEN INTERNATIONAL INC.
Customer: COPCON PO#:PEC-253613 SO#:PR6450
Item:.750x48.5000x96.5000 T651 Bundle:FFV671 Heat#:37797032

This MTR contains 1 page (Pages 1)
MTR#:HLCLR161784_PTM

KAISER ALUMINUM
FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

http://Online.KaiserAluminum.com

Kaiser Aluminum
Trentwood Works
Spokane, WA 99215-5108
(800) 367-2586

CUSTOMER PO NUMBER:	WORK PACKAGE:	CUSTOMER PART NUMBER:	PRODUCT DESCRIPTION:
5400197766-20		ALFLR01581	HT Flat Sheet

KAISER ORDER NUMBER:	LINE ITEM:	SHIP DATE:	ALLOY:	CLAD:	TEMPER:
1160889	2	11/14/2013	2024	BARE	T3
WEIGHT SHIPPED:	**QUANTITY:**	**B/L NUMBER:**	**GAUGE:**	**WIDTH:**	**LENGTH:**
3293 LB	117 PCS EST.	2044959	0.0400 IN	48.000 IN	144.000 IN

SHIP TO:	SOLD TO:
COPPER & BRASS SALES 404 CENTURA COURT SPARTANBURG, SC 29303 US	COPPER & BRASS SALES ATTN: ACCOUNTS PAYABLE P.O. Box 5116 SOUTHFIELD, MI 48086 US

MHU 1730227: LOT 663172A5: 117 pieces

Certified Specifications

AMS 4037/RevP AMS-QQ-A-250/4/RevA ASTM B 209/Rev10 CMMP 019/RevD CMMP 025/RevU

Test Code: 1504

Test Results:

LOT: 663172A5 CAST: 641 DROP: 27 INGOT: 3

Melted in USA
(ASTM E8/B557)
(EN 2002-1)

Tensile: Temper	Dir/#Tests	Ultimate KSI (MPA)	Yield KSI (MPA)	Elongation %
T3	LT / 02 (Min:Max)	68.1 : 68.2 (470 : 470)	46.0 : 46.1 (317 : 318)	17.1 : 17.8

(ASTM E1251)

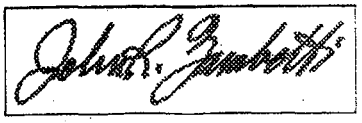
Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR		OTHER
Actual	0.09	0.23	4.7	0.57	1.3	0.01	0.16	0.02	0.01	0.00	TOT	0.03

Chemistry:		SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR		OTHER
2024	MIN	0.00	0.00	3.8	0.30	1.2	0.00	0.00	0.00	0.00	0.00	MAX	0.05
	MAX	0.50	0.50	4.9	0.9	1.8	0.10	0.25	0.15	0.05	0.05	TOT	0.15

Aluminum Remainder

Plant Serial: 4315340
Kaiser Order Number: 1160889
Line Item: 2

From: ThyssenKrupp Materials NA
Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2402984673
CstAr CstOr 256039
Wgt.: 55.296 LB Date 02/20/2014



KAISER ALUMINUM
FABRICATED PRODUCTS

Built in Cars

CERTIFIED TEST REPORT

http://Online.KaiserAluminum.com

Kaiser Aluminum
Trentwood Works
Spokane, WA 99215-5108
(800) 367-2586

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC (Kaiser) hereby certifies that metal shipped under this order was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content. This material has been inspected, tested and found in conformance with the requirements of the applicable specifications as indicated herein. For materialthicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements. All metal which is solution heat treated complies with AMS 2772. Any warranty is limited to that shown on Kaiser's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of Kaiser Aluminum Fabricated Products, LLC laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony underfederal law. ISO-9001:2000 certified.

JAMES HEMENWAY, LABORATORIES SUPERVISOR

Plant Serial: 4315340
Kaiser Order Number: 1160889
Line Item: 2

From: ThyssenKrupp Materials NA
Cust. THYSSENKRUPP MATERIALS NA - ECAD Del.: 2402984673
CstAr CstOr 256039
Wgt.: 55.296 LB Date 02/20/2014

FORM: 1006 WORKORDER: 2402984673

COPPER AND BRASS SALES

MATERIAL TYPE

ALUMINIUM ALLOYS

PRODUCT DESIGNATION

2014 2024 2224 2324 7050 7075 7150 7175 7475 ALUMEC 89 ALUMEC 99 QC-7

"WARNING"

SMALL CHIPS,FINE TURNINGS AND DUST MAY IGNITE READILY.EXPLOSION POTENTIAL MAY BE PRESENT WHEN:DUST OR FINES ARE DISPERSED IN THE AIR; FINE, DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH CERTAIN METAL OXIDES; OR,CHIPS,FINES,DUST OR MOLTEN ALUMINUM ARE IN CONTACT WITH WATER OR MOISTURE.KEEP AWAY FROM IGNITION SOURCE.USE EXPLOSION-PROOF VENTILATION.KEEP MATERIAL DRY.

THIS PRODUCT CONTAINS BERYLLIUM AND COPPER.INHALING BERYLLIUM DUST OR FUMES MAY CAUSE CHRONIC BERYLLIUM DISEASE (CBD),A SERIOUS CHRONIC LUNGDISEASE IN SOME INDIVIDUALS.BERYLLIUM IS A CANCER HAZARD;OVER TIME CBDAND CANCER CAN BE FATAL,TARGET ORGAN IS PRIMARILY THE LUNG.INHALING LARGE AMOUNTS OF COPPER,MAGNESIUM OXIDE,MANGANESE OXIDE,ANDZINC OXIDE FUMES OR DUST MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS.CHRONIC OVEREXPOUSURE TO COPPER MAY CAUSE THICKENING OF THE SKIN;AND SKIN,TEETH,AND HAIR DISCOLORATION.CHRONIC OVEREXPOUSURE TOMANGANESE DUST CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE,SCARRING OF THELUNGS AND REPRODUCTIVE HARM IN MALES.TARGET ORGAN IS PRIMARILY THE LUNG,BUT REPEATED HIGH EXPOSURE CAN ALSO AFFECT THE LIVER.CHRONICOVEREXPOSURE TO IRON OXIDE DUST/FUME MAY CAUSE LUNG SIDEROSIS. CHRONIC OVEREXPOSURE TO SILICON DUST CAN CAUSE CHRONIC BRONCHITIS.OVEREXPOSURE TO AMORPHOUS SILICA CAN CAUSE DRYING OF THE MUCOUSMEMBRANES OF THE EYES,NOSE,AND THROAT.

THIS PRODUCT ALSO CONTAINS NICKEL AND CHROMIUM COMPOUNDS.INHALATION OF NICKEL DUST OR FUME MAY RESULT IN INFLAMMATION OF THE RESPIRATORY TRACTAND CAUSE NASAL AND/OR LUNG CANCER.NICKEL HAS BEEN IDENTIFIED AS A POTENTIAL HUMAN CARCINOGEN.EXPOSURE TO CHROMIUM DUST OR FUMES MAY CAUSE METAL FUME FEVER WITH FLU-LIKE SYMPTOMS AND KIDNEY AND LIVER DAMAGE.UNDER HIGH TEMPERATURES,HEXAVALENT CHROMIUM MAY BE PRODUCED,IF IN THEINSOLUBLE FORM,IT IS A CONFIRMED HUMAN CARCINOGEN.(CALIFORNIA PROPOSITION 65).

IF COATED WITH OIL,MAY CAUSE SKIN IRRITATION/DERMATITIS BY CONTACT.WELDING FUME IS LISTED AS A POSSIBLE CARCINOGENIC TO HUMANS.
READ THE ALUMINIUM/ALUMINIUM ALLOYS MATERIAL SAFETY DATA SHEET (MSDS) ON FILE WITH YOUR EMPLOYER BEFORE WORKING WITH THIS MATERIAL.

* If processing or recycling produces particulate,use exhaust ventilation or other controls designed to prevent exposure to workers. Examples of such activities include melting, welding,grinding,abrasive sawing,sanding and polishing.Any activity which abrades the surface of this material can generate airborne particulate.Use appropriate NIOSH approved respiratory protection (P95; P100 for lead with, quantitative fit testing required) if exposures exceed the permissible limits.
* The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational exposures.
* Aluminum, in solid form and as contained in finished products presents no special health risk.
* Sold for manufacturing purposes only.This product can be recycled; contact your sales representative.

For additional information, call or write to Copper and Brass Sales,22355 West Eleven Mile Road, Southfield, MI 48033,telephone248-233-5600, or visit our web site @ www.copperandbrass.com.

ALUMINUM LABEL NO. 300-1056 ISSUED 10/01/2008

ADITYA BIRLA
HINDALCO INDUSTRIES LIMITED
Jeevan Deep Building, 1 Prafulla Chandra Sen Sarani,
Kolkata-700071, India. Tel:+91-33-22402210
Fax: +91-33-22884886
Regd. Office: Century Bhavan, Dr. Annie Besant Road, Worli,
Mumbai - 400 025, INDIA.

Date 20-SEP-13

NAME OF THE PARTY : AYERSON CANADA INC.,161 THE WEST MALL,TORONTO, ONTARIO M9C4V8,,CANADA,,
PRODUCT : ALUMINIUM SHEET
QTY (MT) : 20,923
LC/NO.& DATE : 64687167 Dt. 20.08.2013
INVOICE NO : HAB/R/2014/72

COPY

THE TEST RESULTS OF THE SAMPLES DRAWN AND TESTED IN OUR LABORATORY ARE AS FOLLOWS :

QUALITY CERTIFICATE

SRNO	Package No	Alloy Temper	Net Wt (MT)	Size (mm)	Coil Nos.	Cast No./Heat No.
1	7173801#4	AA5052 , H32	1.487	3048 X 1219 X 2.29	H13HASH0805002	7173801#4
2	2D0192B01#4	AA5052 , H32	1.508	3048 X 1524 X 2.54	H13HASH0819010	2D0192B01#4
3	3C530#4	AA5052 , H32	1.487	2438 X 1219 X 2.03	H13HASH0805017	3C530#4
4	2D0192B01#5	AA5052 , H32	1.503	3048 X 1524 X 2.54	H13HASH0819010	2D0192B01#5
5	3C53087	AA5052 , H32	1.487	2438 X 1219 X 2.03	H13HASH0805017	3C53087
6	7173801#5	AA5052 , H32	1.511	3048 X 1219 X 2.29	H13HASH0805002	7173801#5
7	7172903#4	AA5052 , H32	1.488	3048 X 1219 X 2.29	H13HASH0805001	7172903#4
8	7172903#2	AA5052 , H32	1.485	3048 X 1219 X 2.29	H13HASH0805001	7172903#2
9	2D0193A01#2	AA5052 , H32	1.47	3048 X 1524 X 2.54	H13HASH0819011	2D0193A01#2
10	7173801#2	AA5052 , H32	1.487	3048 X 1219 X 2.29	H13HASH0805002	7173801#2

CHEMICAL COMPOSITION (%)

	Cast No	Si	Fe	Mn	Mg	Cu	Zn	Cr	Ti	B	Sr	Ni	Pb	V	Na	Bi	Others	Nom. Alum.
1	7173801#4	.091	.216	.006	2.365	.001	0	0	.006	0	0	0	.001	0	0	0		97.121
2	2D0192B01#4	.133	.285	.041	2.413	.01	0	0	.02	0	0	0	.005	0	0	0		96.887
3	3C530#4	.2	.49	.137	2.6	.009	0	0	.013	0	0	0	0	0	0	0		96.397
4	2D0192B01#5	.133	.285	.041	2.413	.01	0	0	.02	0	0	0	.005	0	0	0		96.887
5	3C53087	.2	.49	.137	2.6	.009	0	0	.013	0	0	0	0	0	0	0		96.397
6	7173801#5	.091	.216	.006	2.365	.001	0	0	.006	0	0	0	.001	0	0	0		97.121
7	7172903#4	.105	.262	.003	2.538	.001	0	0	.006	0	0	0	.001	0	0	0		96.873
8	7172903#2	.105	.262	.003	2.538	.001	0	0	.006	0	0	0	.001	0	0	0		96.873
9	2D0193A01#2	.174	.301	.034	2.367	.016	0	0	.02	0	0	0	.005	0	0	0		96.88
10	7173801#2	.091	.216	.006	2.365	.001	0	0	.006	0	0	0	.001	0	0	0		97.121

MECHANICAL PROPERTIES

OTHER TESTS

	Cast No	UTS(Kg/cm2)	YS (Kg/cm2)	% Elongation	Bend Test
1	7173801#4	24.9	0	11.2	0 T Satisfactory
2	2D0192B01#4	23.2	0	10.6	0 T Satisfactory
3	3C530#4	22.9	0	9.5	0 T Satisfactory
4	2D0192B01#5	23.2	0	10.6	0 T Satisfactory
5	3C53087	22.9	0	9.5	0 T Satisfactory
6	7173801#5	24.5	0	11.2	0 T Satisfactory
7	7172903#4	23.4	0	10.6	0 T Satisfactory
8	7172903#2	23.4	0	10.6	0 T Satisfactory
9	2D0193A01#2	22.6	0	11.8	0 T Satisfactory
10	7173801#2	24.5	0	11.2	0 T Satisfactory

Remarks:- (1) AYERSON PO NO.736870 (2) ISSUED BY THE MANUFACTURER.

FOR HINDALCO INDUSTRIES LIMITED

AUTHORISED SIGNATORY

2/2

ADITYA BIRLA
HINDALCO INDUSTRIES LIMITED
Jeevan Deep Building, 1 Prafulla Chandra Sen Sarani,
Kolkata-700071, India. Tel:+91-33-22402210
Fax: +91-33-22884808
Regd. Office: Century Bhavan, Dr. Annie Besant Road, Worli,
Mumbai - 400 025, INDIA.

Date: 20-SEP-13

NAME OF THE PARTY : RYERSON CANADA INC.,161 THE WEST MALL,TORONTO, ONTARIO M9C4V8,,CANADA.,

PRODUCT ALUMINIUM SHEET.

QTY (MT) 20.923

LC/PO.& DATE 64687167 Dt. 20.08.2013

INVOICE NO HRB/R/2014/72

COPY

QUALITY CERTIFICATE

SRNO	Package No	Alloy Temper	Net Wt (MT)	Size (mm)	Coil Nos.	Cast No./Heat No.
11	3C530B6	AA5052 , H32	1.486	2438 x 1219 x 2.03	H13HASH0805017	3C530B6
12	3C529B1	AA5052 , H32	1.517	2438 x 1219 x 2.03	H13HASH0805018	3C529B1
13	2D0192B01B2	AA5052 , H32	1.502	3048 x 1524 x 2.54	H13HASH0819010	2D0192B01B2
14	2D0193A01B5	AA5052 , H32	1.805	3048 x 1524 x 2.54	H13HASH0819011	2D0193A01B5
		Total-	20.923			

CHEMICAL COMPOSITION (%)

	Cast No	Si	Fe	Mn	Mg	Cu	Zn	Cr	Ti	B	Zr	Ni	Pb	V	Sn	Bi	Others	Rem. Alum.
11	3C530B6	.2	.48	.139	2.6	.009	0	0	.013	0	0	0	0	0	0	0		96.397
12	3C529B1	.2	.49	.137	2.6	.005	0	0	.013	0	0	0	0	0	0	0		96.397
13	2D0192B01B2	.133	.285	.041	2.613	.01	0	0	.02	0	0	0	.005	0	0	0		96.897
14	2D0193A01B5	.134	.301	.056	2.567	.016	0	0	.02	0	0	0	.005	0	0	0		96.88

MECHANICAL PROPERTIES

OTHER TESTS

	Cast No	UTS(Kg/cm2)	YS (Kg/cm2)	% Elongation	Bend Test		
11	3C530B6	22.9	0	9.5	0 T Satisfactory		
12	3C529B1	22.4	0	10	0 T Satisfactory		
13	2D0192B01B2	23.2	0	10.6	0 T Satisfactory		
14	2D0193A01B5	22.6	0	11.8	0 T Satisfactory		

Remarks:- (1) RYERSON PO NO.736670 (2) ISSUED BY THE MANUFACTURER.

HINDALCO INDUSTRIES LIMITED

AUTHORISED SIGNATORY

ESSAR STEEL

ESSAR STEEL ALGOMA INC.,105 West Street, Sault Ste. Marie,Ontario, Canada P6A 7B4

SO No.,Item & Date.: 8017177 000020 2014/01/09	Shipment No.& Date.: 1000083594 2014/01/10	TC No., Date & Time :	ESA-128192 2014/01/12 - 08:41:14
Sold to Customer Name and Address :	Ship to Customer Name and Address:	Customer PO NO./Item:	744335 / 2
RYERSON INC	RYERSON INC	BOL NO.:	1000083594
FINANCIAL DRIVE 7525	FINANCIAL DRIVE 7525	Cust.Part No.:	7804-2405
BRAMPTON,Ontario,Canada	BRAMPTON,Ontario,Canada	Carrier :	NATIONAL TRANSPORTATION - 1158A
L6Y 5P4	L6Y 5P4		

Customer Specification : CR STEEL SHEET Carbon CQ / CS ASTM A1008 CS TY B (2012) Mark Number 7804-2405 Batch Annealed Top Semi Critical Surface Improved Shape Pickled Light Oiled Light Matte Finish Edge Sealant Required Std Thickness Tol

Supplementary Instructions : Test Cert 1:905-792-1617

Insp T/R : Chemical Analysis

Cust Use : AUTO IMPROVED SHAPE &SURF

ESSAR STEEL ALGOMA INC. HEREBY CERTIFIES THAT THE MATERIAL HEREIN DESCRIBED WAS MADE AND TESTED IN ACCORDANCE WITH THE RULES OF THE SPECIFICATION SHOWN. ALL RESULTS ARE RETAINED IN ACCORDANCE WITH THE COMPANY'S STANDARD RECORD KEEPING PRACTICES.
THIS MILL TEST REPORT MAY NOT BE REPRODUCED EXCEPT IN FULL WITHOUT WRITTEN APPROVAL OF ESSAR STEEL ALGOMA INC. IF YOU RECEIVE THIS DOCUMENT AND ARE NOT THE INTENDED RECEIVER, PLEASE CALL (705)945-4095 FOR INSTRUCTIONS ON METHOD OF DISPOSAL OF DOCUMENT.

MEETS EN 10204 3.1
ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT WWW.ESSARSTEELALGOMA.COM

ALL HEATS FULLY KILLED.
HEATS INDICATED WITH (*) FINE GRAINED.
HEATS INDICATED WITH (+) MADE IN CANADA WITH DOMESTIC AND NORTH AMERICAN MATERIALS.

Dimensions (T x W x L)	Batch No.	Heat No-MS	Quantity	Pcs
0.0440 " x 48.000 "	SAM9918B	3683T3-51	21,740 LB	1

CHEMICAL PROPERTIES

Heat No. (wt%)	C	Mn	P	S	Si	Cr	Ni	Cu	Mo	Al	Nb	V	B	Ti	N
+ 3683T3*	0.04	0.26	0.003	0.007	0.020	0.01	0.01	0.01	0.00	0.035	0.000	0.000	0.0000	0.001	0.0033

K. UGHADPAGA
MANAGER METALLURGICAL SERVICES

WARNING THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE ONLY THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM SPECIFIED YIELD STRENGTH AND (2) THE ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE (INCLUDING DESIGN OR CALCULATIONS) AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL.

THYSSENKRUPP MATERIALS NA

Certificate of Mill Test Results

BL PBC-000000-000

Pg 1/1

PO/Rel

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by:_____

Attn: RICK

PART NO.

NO. 8465 P. 2

FEB. 28. 2014 3:46PM MATERIAL

DAS
27
9-69
10/10/17

产品质量证明书
MATERIAL TEST CERTIFICATE

无锡宝昌金属制品有限公司
Wuxi Baochang Metal Products Co.,Ltd

单号码 Order No.: EX1309301GS
品名 Commodity: STAINLESS STEEL SHEETS, SLIT EDGE
牌号 Type: 304
编号 Invoice No.: EX1309301
货方 Order: GLOBAL STAINLESS STEEL INC.
标准 Specification: ASTM A240/A240M
表面加工 Surface Finish: 2B
发行日期 Date: 2013-10-26
用户 CONSIGNEE: GLOBAL STAINLESS STEEL INC.

序号 No.	货物编号 Product No.	产品尺寸 Product Size 厚度 Thickness MM	宽度 Width MM	长度 Length MM	数量 Number	重量 Weight Kg	拉伸试验 Tensile Test 延伸强度 0.2% YS N/mm²	抗拉强度 TS N/mm²	延伸率 EL %	表面硬度 Hardness HRB	炉批号 HEAT NO.	化学成分 Chemical Composition (%) C	Si	Mn	P	S	Ni	Cr	N
12	13102612	0.6096	1219.2	2438.4	118	1612	250	690	57	83	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
13	13102613	0.6096	1219.2	2438.4	118	1616	250	690	57	83	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
14	13102614	0.7620	1219.2	2438.4	88	1644	271	665	58	89.5	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
15	13102615	0.7620	1219.2	2438.4	87	1626	271	665	58	89.5	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
16	13102616	1.2192	1219.2	2438.4	54	1494	267	695	55	87	A1303987	0.0400	0.550	1.1000	0.0330	0.0010	8.0200	18.160	0.0400
17	13102617	1.2192	1219.2	2438.4	50	1378	267	695	55	87	A1303987	0.0400	0.550	1.1000	0.0330	0.0010	8.0200	18.160	0.0400
18	13102618	1.2192	1219.2	3048	42	1460	267	695	55	87	A1303987	0.0400	0.550	1.1000	0.0330	0.0010	8.0200	18.160	0.0400
19	13102619	1.2192	1219.2	3048	45	1574	267	695	55	87	A1303988	0.0400	0.430	1.1300	0.0380	0.0010	8.0300	18.230	0.0300
20	13102620	1.5240	1219.2	2438.4	43	1485	271	680	52	87	A1303988	0.0400	0.430	1.1300	0.0380	0.0010	8.0300	18.230	0.0300
21	13102621	1.5240	1219.2	2438.4	43	1487	271	680	52	87	A2304006	0.0300	0.440	1.1500	0.0380	0.0010	8.1000	18.250	0.0400
22	13102622	1.9050	1219.2	2438.4	40	1725	268	650	55	84	A2304006	0.0300	0.440	1.1500	0.0380	0.0010	8.1000	18.250	0.0400
23	13102623	1.9050	1219.2	2438.4	41	1755	268	650	55	84	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
24	13102624	3.0480	1219.2	3048	17	1482	280	675	54	84	A1303883	0.0400	0.390	1.1300	0.0350	0.0010	8.0200	18.120	0.0400
25	13102625	3.0480	1219.2	3048	19	1656	280	675	54	84									

备注（Remarks）：
1. 尺寸和表面：合格
Size and Surface : Guaranteed

兹证明所列产品均符合订单和标准的制造要求

WE HEREBY CERTIFY THAT THE MATERIAL HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE ORDER AND SPECIFICATION

*此报告仅可完全复制
*The report can only be copied completely

技术本部
TECHNICAL DEPT.

无锡宝昌金属制品有限公司
WUXI BAOCHANG METAL PRODUCTS CO.,LTD.

Doc No. 173953 Indexed 12Dec13 by slssupt

THYSSENKRUPP MATERIALS NA

Certificate of Mill Test Results

BL PEC-000000-000

PO/Rel

We certify that this is a true copy of the report furnished by the producer of the metal, or data resulting from tests made in approved labs.

Signed by: _____ Pg 1/1

Attn: RICK

PART NO.

1846

ThyssenKrupp Stainless USA

INSPECTION CERTIFICATE
CERTIFICADO DE INSPECCION
ABNAHMEPRÜFZEUGNIS
according to / de acuerdo con / nach
EN 10204-3.1

0000032224 / 1 / 1

1 ThyssenKrupp Drive; P.O. Box 13000; Calvert, AL 36513-2100

GILBERT METALS SALES LIMITED
900 DERRY ROAD EAST SUITE 305
MISSISSAUGA ON L5T 2J8
CANADA

GILBERT METALS SALES LIMITED, MISSISSAUGA

TO-1846

001147789 / 001

85228221 / 010

SHEET/HOJAS/BLECH

ASTM A240/A240M, ASME SA-240 Sec.II Part A Ed.2010
ASTM A480/A480M, ASME SA-480 Sec.II Part A Ed.2010

TYPE 304/304

3.05 mm x 1,219.20 mm x 2,438.40 mm
0.1200 Inch x 48.0000 Inch x 96.0000 Inch

AQD

6051915	32	4,890 lb / 2,218 kg	713000	350420	1000088530	1000088532
6051812	32	4,886 lb / 2,216 kg	713000	350420	1000088530	1000088532
	64	9,775 lb / 4,434 kg				

Heat / Cast / Schmelze	Country of Melt / Pais de colada / Erschmelzungsland	% C	% Si	% Mn	% P	% S	% Cr	% Ni	% N			
350420	USA	0.028	0.50	1.66	0.027	0.0018	18.05	8.09	0.060			

TRANSVERSE

Inspection lot / Lote inspección / Prüflos	YS0.2% PSI / MPa	TS PSI / MPa	El. A1" %	HRB		
1000088530	45,600 / 302	83,111 / 642	55.0	82		
1000088532	45,945 / 305	85,111 / 642	56.1	82		

OK
OK

No weld repairs
No intentional additions of Mercury compounds were made or used
Free of radioactive contamination
EU RoHS Directive 2002/95/EC Compliant
Country of Melt as per ISO 3166-1

ThyssenKrupp Stainless USA, LLC
An ISO 9001:2008 certified company

Andrew Peluso
Phone: +1 251 690 3402

12/12/2012